PolyGard® Door Entrance Module DEM-03

Door Entrance Module for DGC-03 and DGC-05 Gas Controller Series

Serial number - _DEM-03_005

User Manual

May, 2013

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GADEM03_E_0513

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Door Entrance Module DEM-03

1 Intended Use

For installation and commissioning it is essential to observe the user manuals for DGC-03 and DGC-05 as well as the "Guidelines for wiring and commissioning of the hardware of DGC-03 and DGC-05".

The PolyGard® door entrance module DEM-03 is used for warning of gases at the entrance of closed rooms.

The DEM-03 is connected to the fieldbus of the DGC-03 or DGC-05 gas controller. Depending on the configuration, the warning is output as text message/ optically/ acoustically.

The free adjustable parameters enable a very flexible use in the gas measuring technique. Simple and comfortable commissioning is possible thanks to the configuration with pre-set parameters.

Configuration, parameter settings and operation are done via the logical, easy system menu structure without specific programming knowledge.

The intended sites within the ambient conditions as specified in the Technical Data are all areas being directly connected to the public low voltage supply, e.g. residential, commercial and industrial ranges as well as small enterprises (according to EN50 082).

The PolyGard® module DEM-03 must not be used in potentially explosive atmospheres.

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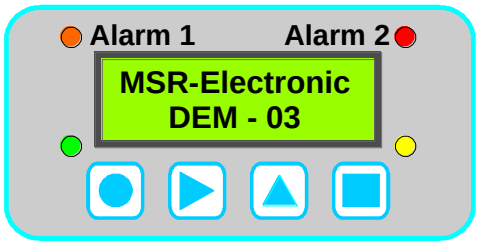
2 Operating Instruction

The complete operation and configuration are made via the keypad in combination with the display screen. The operating keys are only accessible with the cover demounted in order to avoid unauthorised access by a third party. The key also used for acknowledging the internal buzzer.



2.1 Function of the Keys and LEDs on the Operator Panel

Exits programming, returns to the previous menu level. Resets internal buzzer.

Enters submenus, saves parameter settings.

Scrolls within a menu, changes values.

Moves the cursor.

LED orange: Flashes when alarm 1 or more alarms are active.

LED red: Flashes when alarm 2 or more alarms are active.

LED yellow: Flashes at system or sensor failure.

LED green: Power LED

2.2 Setting / Changing Parameters or Set points

Open desired menu window.

Code window opens, if no code level approved.

After input of the valid code the cursor jumps on the first position segment to be changed.

Push the cursor onto the position segment, which has to be changed.

Change the parameter / set point.

Save the changed value.

Finished

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2.3 Code Level

All inputs and changes are protected by a four-digit numeric code (= password) against unauthorised intervention. All menu windows are visible without entering a code.

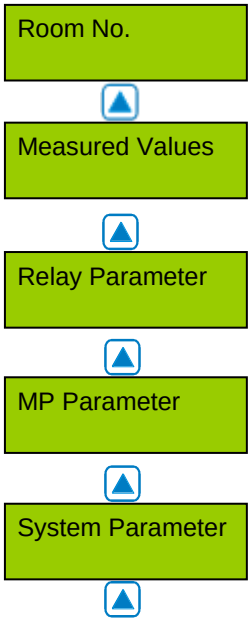
The release of a code level is cancelled if no button is pushed within 15 minutes.

2.4 Function

The door module comes not only with 3 status LEDs (Alarm 1, Alarm 2, and Fault), but also with an LC display for displaying text messages about the status of the gas detection system. The status LEDs, text messages, internal buzzer and local relays are activated by the status information of the alarm relays of the GC-03 and GC-05 controller. The door module only needs the assignment of the actuators to the alarm relays of the gas controller.

3 Menu Overview

The operation of the DEM-03 is done via the following menu with the levels:



Starting menu:
Display of the room no.
If any measured values are released, they are displayed in stead of the room no. in a scrolling way.

Display of the measured values

Assignment of the DEM-03 actuators to the alarm relays. of the GC-0X gas controller. See 3.2.

Adaptation of the measuring point parameters to the MP parameters of the GC-0X gas controller. See 3.3

Setting of the system parameters. See 3.4

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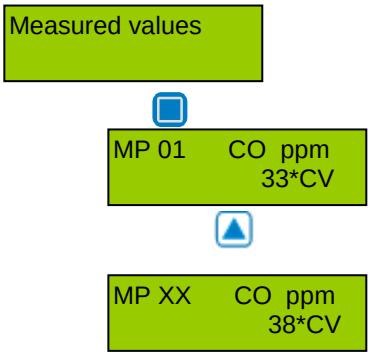
3.1 Menu Measured Values

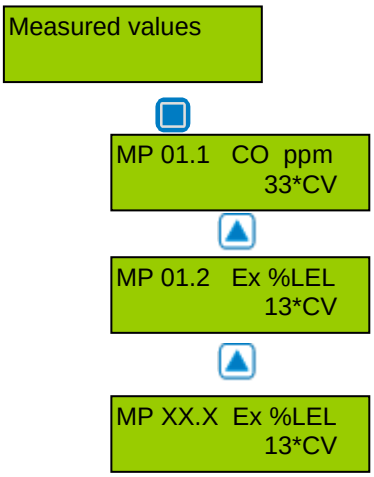
This menu is for displaying the current value (CV) with unit and gas type for each measuring point released in the menu PM parameters and activated in the GC-0X Gas Controller.

The presentation of the measured values depends on the transmitters connected to the fieldbus.

Display of the measured values for MP address mode “bus transmitters”



Display of the measured values for MP address mode “bus transmitters with one analog transmitter each”



You can find further information in the user manual of the GC-0X gas controller in the chapter „Menu measured values“.

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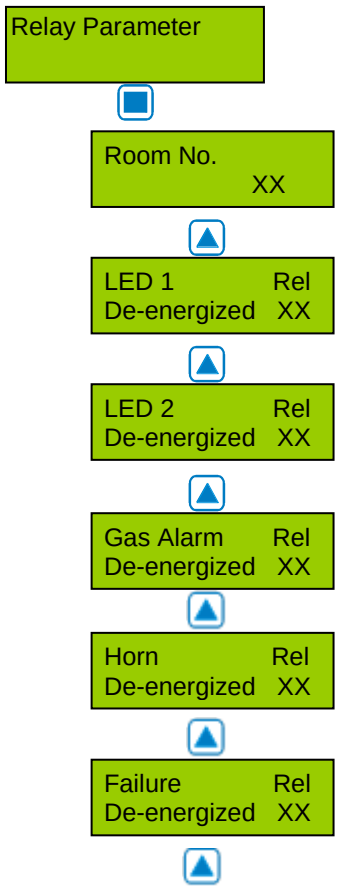
3.2 Menu Relay Parameters

This menu is for assigning the DEM-03 actuators to the alarm relays of the GC-0X gas controller.



(Main menu)

Selection room no.
This room number is displayed in the starting menu.

Activation of LED Alarm 1 and local relay 1 by alarm relay XX of the GC-0X Gas Controller

Activation of LED Alarm 2 and local relay 2 by alarm relay XX of the GC-0X Gas Controller. (Local relay 2 activates the optional flashlight.)

Activation of text “Gas Alarm” by alarm relay XX of the GC-0X Gas Controller

Activation of internal buzzer by alarm relay XX of the GC-0X Gas Controller

Activation of LED failure und open collector R4 by alarm relay XX of the GC-0X Gas Controller

Rel XX = Alarm relay No. of the GC-0X Gas Controller

De-energized or energized mode

The adaptation to the trigger behaviour of the alarm relay of the GC-0X gas controller is specified here.

See also instructions GC-0X gas controller, chapter "relay mode".

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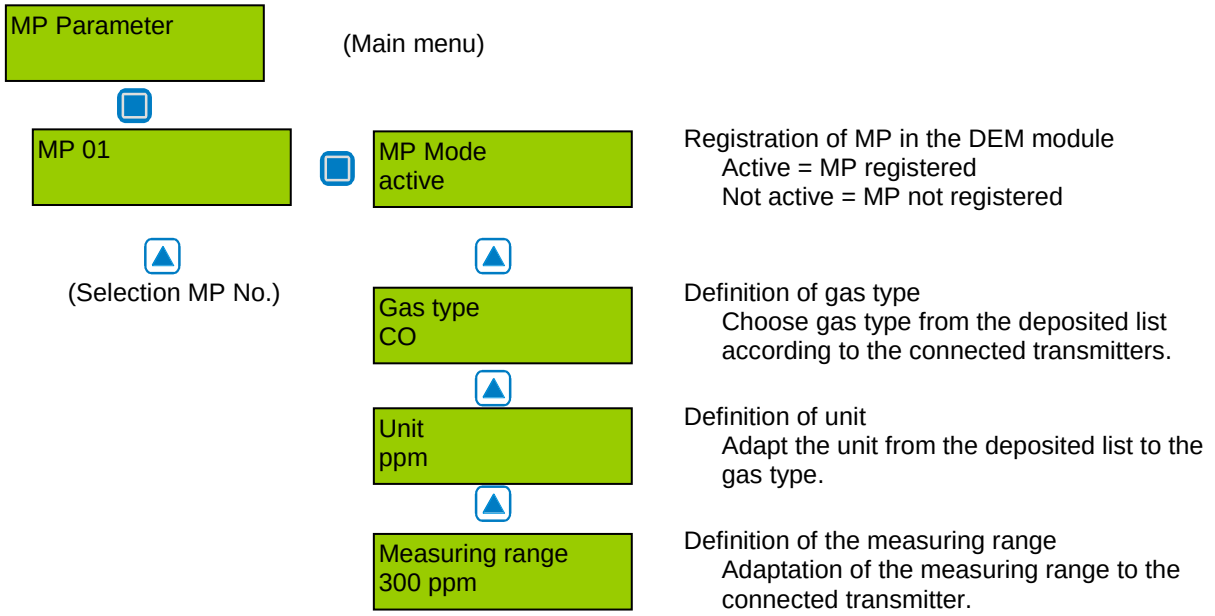
3.3 Menu MP Parameters

Display and adaptation of MP parameters including registration of MP.

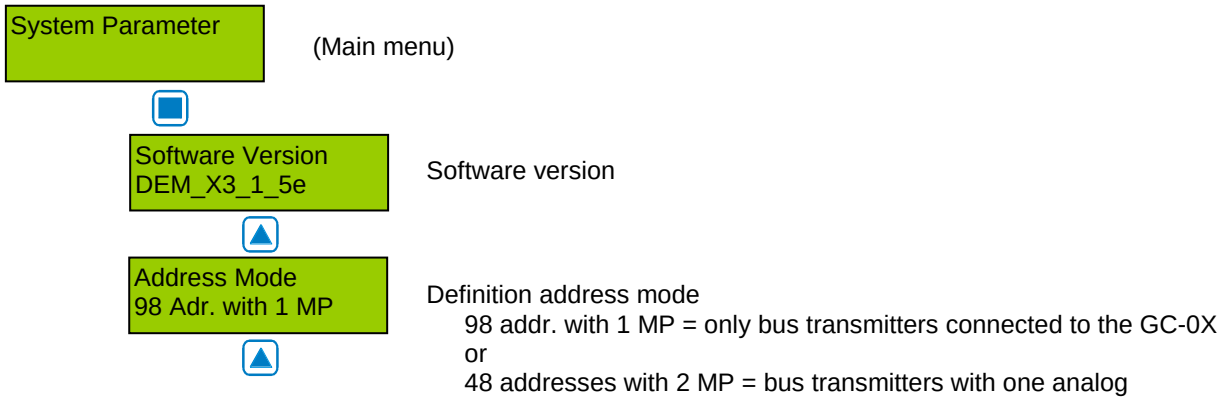
The presentation of the MP parameters depends on the selected address mode.
See 3.1 Menu Measured Values.



See also User Manual GC-0X Gas Controller, chapter „MP Parameter“.

3.4 Menu System Parameters

The menu System Parameter is for defining the address mode. The software version can be read from here as well.


System Parameter
(Main menu)
Software Version
DEM_X3_1_5e
Software version
Address Mode
98 Adr. with 1 MP
Definition address mode
98 addr. with 1 MP = only bus transmitters connected to the GC-0X
or
48 addresses with 2 MP = bus transmitters with one analog transmitter each connected to the GC-0X

4 Mounting/ Electrical Connection

Note: Electronics can be destroyed by electrostatic discharge. Therefore, do not touch the housing without a wrist strap connected to ground or without standing on a conductive floor (acc. to DIN EN100015).

4.1 Mounting Instructions

When choosing the mounting site please pay attention to the following:

- Mount the device well visibly next to the entrance door.
- The recommended mounting height is about 1.6 to 1.8 m (5 to 6 ft.).
- Choose mounting location of the sensor according to the local regulations.

4.2 Installation

- Open the cover.
- Fix bottom part by screws vertically to the wall (terminal blocks to the ground).
- Replace the cover.

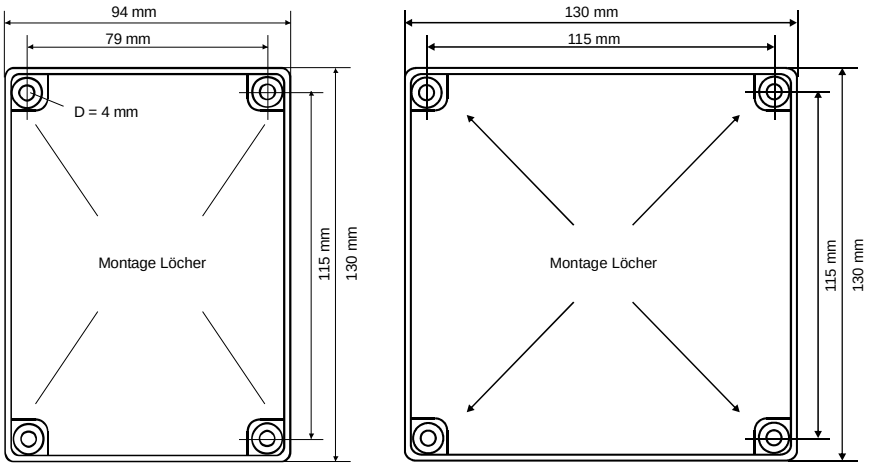


Fig. 01 Standard plastic housing Housing for option power supply unit

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4.3 Electrical Connection

Please observe guidelines concerning electrostatic discharge (ESD)!

Please observe the „Guidelines for wiring and commissioning of the hardware of DGC-03 and DGC-05" when wiring and connecting the DEM-03 module.

4.4 Terminal Connection

- Open the cover. Unplug basic PCB carefully from terminal blocks at X4 and X5.
- Insert the cable; connect cable leads to terminal blocks.
- Replug the PCB carefully into the terminal blocks X4, X5. Replace cover.

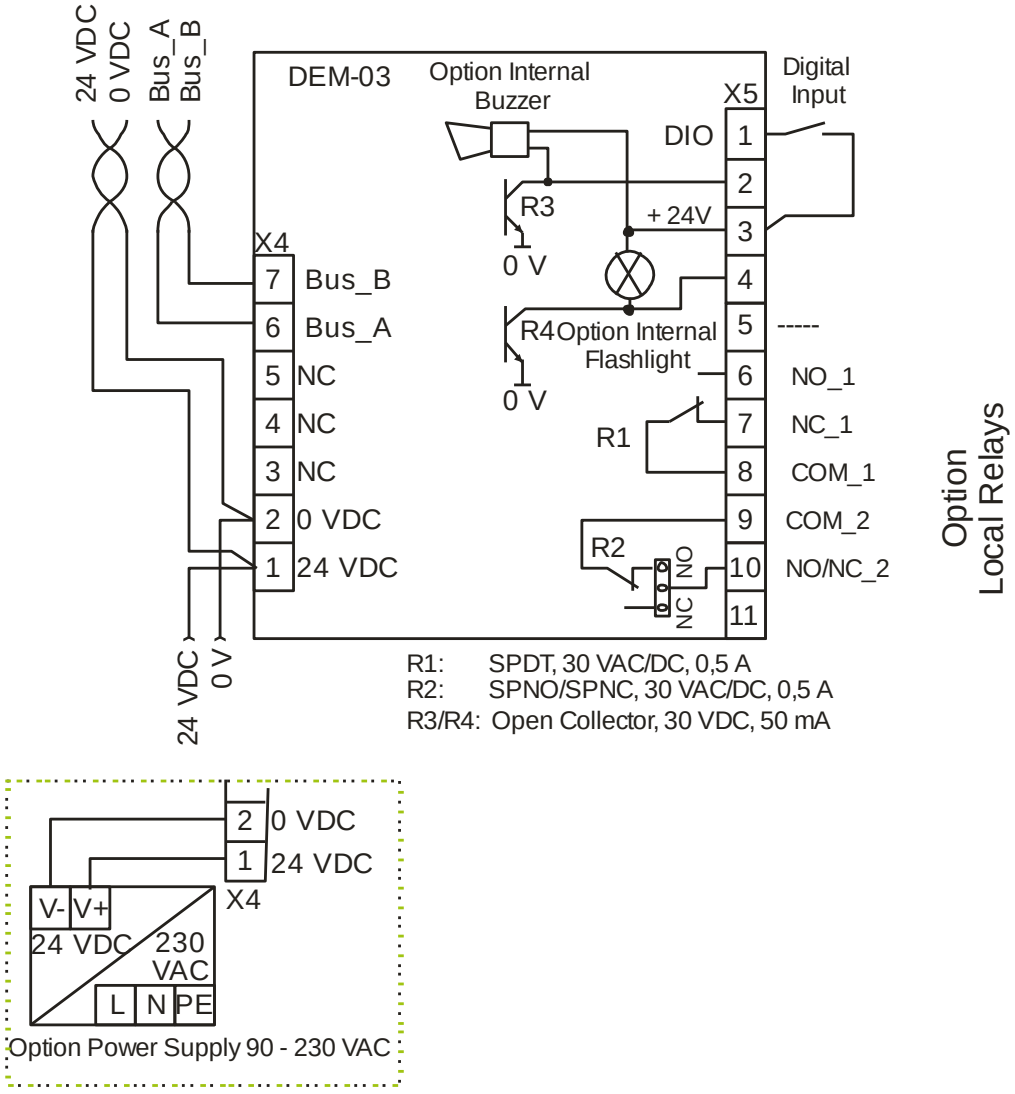

Fig. 02 Connection Diagram

5 Specifications

Electrical	
Power supply	18 - 28 VDC reverse polarity protected
Power consumption (basic unit w/o options)	100 mA, max. (2.5 VA)
Visualisation	
Display	Two lines, 16 characters each
Status LED (4)	Normal operation- Fault- Alarm1- Alarm 2
Operation	4 push-buttons – menu-driven
Serial interface	
Transceiver	RS 485 / 19200 Baud
Operating environment	
Humidity	15 – 90 % RH non-condensing
Working temperature	-10 °C to + 50 °C (14 °F to 122 °F)
Storage temperature	5 °C to 30 °C (41 °F to 86 °F)
Pressure range	Atmospheric ± 10 %
Physical	
Enclosure type A (standard) and type C (for option power supply)	Polycarbonate
Flammability	UL 94 V2
Enclosure colour	RAL 7032 (light grey)
Dimensions (W x H x D) type A type C	94 x 130 x 57 mm (3.7 x 5.12 x 2.24 inch.) 130 x 130 x 75 mm (5.12 x 5.12 x 2.95 inch.)
Weight	Approx. 0.6 kg (1.323 lbs.)
Protection class	IP 65
Installation	Wall mounting
Cable entry	Standard 1 x M 20
Wire connection	Screw type terminal, min. 0.25, max. 2.5 mm^2 (24 to 14 AWG)
Guidelines	EMC Directive 2004/108/EC Low voltage directive 2006/95/EC VDI 2053 CE
Warranty	1 year on material
Options	
Buzzer	
Acoustic pressure	83 dB (A) (distance 200 mm/ 0.6 ft)
Frequency	2300 Hz
Local relay	
Relay 1	30 VAC/DC 0.5 A, potential-free, SPDT
Relay 2	30 VAC/DC 0.5 A, potential-free, SPNO/SPNC
Power supply 90 - 230 VAC	
Power consumption max.	25 VA
LED flashlight, red	
Power supply	18 – 28 VDC
Power consumption	45 mA, max. (1.2 VA)
Protection class	IP 65
Heating	
Temperature controlled	3 °C ±2°C (37.5 °F ± 3.6°F)
Ambient temperature	- 30 °C (- 22 °F)
Power consumption	0.3 A; 7.5 VA

6 Part Disposal

Since August 2005 there are EC-wide directives defined in the EC Directive 2002/96/EC and in national codes concerning the waste electrical and electronic equipment and also regarding this device.

For private households there are special collecting and recycling possibilities. For this device isn't registered for the use in private households, it mustn't be disposed this way. You can send it back to your national sales organisation for disposal. If there are any questions concerning disposal please contact your national sales organisation.

Outside the EC, you have to consider the corresponding directives.

7 Notes and General Information

It is important to read this user manual carefully in order to understand the information and instructions. The PolyGard® DEM-03 gas monitoring, control and alarm system may only be used for applications in accordance to the intended use. The appropriate operating and maintenance instructions and recommendations must be followed.

Due to permanent product developments, MSR-Electronic-GmbH reserves the right to change specifications without notice. The information contained herein is based on data considered to be accurate. However, no guarantee or warranty is expressed or implied concerning the accuracy of these data.

7.1 Intended Product Application

The PolyGard® DEM-03 is designed and manufactured for controlling, for saving energy and keeping OSHA air quality in commercial buildings and manufacturing plants.

7.2 Installers` Responsibilities

It is the installer's responsibility to ensure that all PolyGard® DEM-03 are installed in compliance with all national and local regulations and OSHA requirements. All installations shall be executed only by technicians familiar with proper installation techniques and with codes, standards and proper safety procedures for control installations and the latest edition of the National Electrical Code (ANSI/NFPA70). It is also essential to follow strictly all instructions as provided in the user manual.

7.3 Maintenance

We recommended checking the PolyGard® DEM-03 system regularly. Due to regular maintenance differences in efficiency can easily be corrected.

7.4 Limited Warranty

MSR-Electronic-GmbH warrants the PolyGard® DEM-03 against defects in material or workmanship for a period of one (1) year beginning from the date of shipment. Should any evidence of defects in material or workmanship occur during the warranty period, MSR-Electronic-GmbH will repair or replace the product at their own discretion, without charge.

This warranty does not apply to units that have been altered, had attempted repair, or been subjected to abuse, accidental or otherwise. The above warranty is in lieu of all other express warranties, obligations or liabilities.

This warranty applies only to the PolyGard® DEM-03. MSR-Electronic-GmbH shall not be liable for any incidental or consequential damages arising out of or related to the use of the PolyGard® DEM-03.

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